

**REMARKS**

Reconsideration of this application is respectfully requested. Applicants have amended claim 25. Claims 16-29 are pending in this application, with claims 16-21 and 26-29 withdrawn from consideration.

**Title/Abstract**

The Examiner objects to the Abstract as allegedly not describing the salient characteristics of the claimed invention. The Examiner indicates that he will suggest an appropriate abstract when allowable subject matter has been identified.

The Examiner alleges that the title is not descriptive, and requires a new title. Applicants have amended the title as suggested by the Examiner.

**Rejections under 35 U.S.C. § 112, second paragraph**

Claims 22-25 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being vague and indefinite in referring to hybridization parameters. Applicants traverse the rejection.

Applicants respectfully submit that the reference to hybridization parameters in claim 22 is clear. This recitation in the claim specifies that "said HIV-2 fragment" hybridizes to a greater extent to the genomic RNA of HIV-2 than to the genomic RNA of HIV-1 BRU under the specified conditions. Thus, the claimed HIV-2 fragment has this HIV-2 specificity with respect to its hybridization properties. To emphasize this point, and without narrowing the claims in any way, applicants have amended claim 22 to make clear that the hybridization properties relate to the "fragment of HIV-2 nucleic acid deposited at the C.N.C.M. under Accession No. I-627." Accordingly, applicants respectfully request withdrawal of the rejection.

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**Rejections under 35 U.S.C. § 112, first paragraph**

Claims 22-25 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter that was not described in the specification in such a way as to reasonably convey to the skilled artisan that the inventors had possession of the claimed invention at the time the application was filed. The Examiner contends that no restriction map or nucleotide sequence of pROD 4.7 (accession number I-627) was provided. Also, the Examiner alleges: "It is quite feasible . . . that said sequence is defective in one or more locations and replication-impaired." (Paper No. 9 at 5.) The Examiner further alleges that the disclosure fails to identify suitable pROD 4.7 nucleic acid fragments that are capable of encoding HIV-2 proteins. Applicants traverse the rejection.

Applicants provide an adequate written description of the method of claims 22-25. For example, the specification describes a clone ( $\lambda$  ROD 4) containing the "complete genome" of HIV-2. (Specification at 14, lines 3-5.) The specification further indicates that the  $\lambda$  ROD 4 fragment containing the genome of HIV-2 can be found in plasmid pROD4.7 in *E. coli* deposited under C.N.C.M. No. I-627. (*Id.* at 14, lines 8-10.) Thus, the specification indicates that plasmid pROD4.7 contains the complete genome of HIV-2, and that the deposited *E. coli* strain contains the plasmid. Accordingly, applicants had possession of the complete genome of HIV-2.

Moreover, applicants provide a restriction map of the complete genome of HIV-2 (and  $\lambda$  ROD 4). (Specification at Fig. 3A.) The restriction map shows the sites for *Bam*HI, *Eco*RI, *Hind*III, *Kpn*I, *Pst*I, *Pvu*II, *Sac*I, and *Xba*I. (*Id.*) Since pROD4.7 contains the complete genome of HIV-2 from  $\lambda$  ROD 4, the specification provides a restriction

map of the complete genome of HIV-2 in pROD4.7. Thus, the Examiner's assertion to the contrary is incorrect.

Based on applicants' disclosure of the restriction map of the complete genome of HIV-2 and its deposit, the skilled artisan would recognize that applicants had possession of nucleic acid fragments of HIV-2 encompassing the complete genome. Based on the further teachings of the specification, the skilled artisan would also understand that applicants' had possession of the claimed method of using HIV-2 nucleic acid fragments to produce HIV-2 peptides.

The specification indicates that polypeptides can be produced by expression of cDNAs in hosts such as bacteria, yeast, or animal cells. (Specification at 10, lines 3-7.) The specification describes cloning cDNAs into a vector. (*Id.* at 12, lines 5-6.) The specification describes hybridization of the inserts of cDNA clones under the claimed hybridization conditions to detect HIV-2 cDNAs. (*Id.* at 19, line 19, through 20, line 22.) Thus, the specification describes the claimed method for producing HIV-2 peptides.

Moreover, the specification also describes the cross-hybridization between the HIV-1 and HIV-2 genomes. (*Id.* at 14-15, bridging paragraph, and Fig. 3B.) In this way, the specification identifies genes (*e.g.*, *gag* and *pol*) within the HIV-2 genome. (See Fig. 3B.) Thus, based on applicants' disclosure, the skilled artisan would understand that applicants HIV-2 genome encoded HIV-2 peptides.

Following applicants' disclosure, the skilled artisan could clone and express pROD4.7 nucleic acid fragments encoding HIV-2 peptides using applicant's claimed method. Thus, the skilled artisan would recognize that applicants had possession of the

claimed method. Accordingly, applicants respectfully request withdrawal of the rejection.

Furthermore, to support the rejection, the Examiner's alleged that applicants' clone may be "defective in one or more locations and replication-impaired." Applicants traverse this assertion. There is no evidence of record to support this assertion. If the Examiner is relying on personal knowledge to support this allegation, applicant's request that the Examiner provide an affidavit or declaration in support of this allegation. See 37 C.F.R. § 1.104(d)(2).

Applicants respectfully submit that this application is in condition for allowance. In the event that the Examiner disagrees, he is invited to call the undersigned to discuss any outstanding issues remaining in this application in order to expedite prosecution.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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